

REMARKS

Applicants have carefully reviewed the Office Action mailed October 29, 2009, and thank Examiner Jennison for the detailed review of the pending claims. In response to the Office Action, Applicants have amended claim 2 and canceled claims 13, 15, 17 and 19. By way of this amendment, no new matter has been added. Accordingly, claims 2, 14, 16, 18 and 20 – 30 remain pending in this application. At least for the reasons set forth below, Applicants respectfully traverse the foregoing rejections.

As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such assertions/requirements in the future. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicants expressly do not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03. Applicants respectfully request reconsideration of the present application in view of the above amendment and the following remarks.

Claim Rejections – 35 U.S.C. § 103

I. The Law:

"To establish prima facie obviousness of a claimed invention, all the claim recitations must be taught or suggested by the prior art." *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j).

"The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). "It can be important to identify a reason that would

have prompted a person of ordinary skill in the relevant field to combine the elements in the way that the claimed invention does.” *KSR Int’l v. Teleflex, Inc.*, 127 S.Ct. 1727, 1741 (2007).

A. *Clarke et al.* (U.S. Patent No. 5,211,327) in view of *Brenner et al.* (U.S. Patent No. 6,365,866)

Claims 2 and 13 – 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Clarke et al.* (U.S. Patent No. 5,211,327) (hereinafter, “*Clarke*”) in view of *Brenner et al.* (U.S. Patent No. 6,365,866) (hereinafter, “*Brenner*”).

In order to support a rejection under 35 U.S.C. § 103(a), the rejected claims must be obvious in light of the cited references. Because Applicants’ independent claim 2 is not obvious in light of *Clarke* in view of *Brenner*, Applicants respectfully traverse these rejections.

1. Independent Claim 2

Independent claim 2, as amended, recites:

“A process for joining components for torque transmission in a vehicle, the components being made from hardenable steel and having a material thickness, by producing a weld seam without secondary heating, comprising:

- positioning a welding electrode with respect to a weld line;
- applying a voltage;
- supplying a plasma gas;
- forming an arc; and

melting the steel in the vicinity of the weld line over the entire material thickness, wherein the energy per unit length introduced by the welding process is in the range from 234 J/mm to 3360 J/mm, and wherein the hardenable steel has a material thickness in the range from approximately 2.0 mm to 10.0 mm.”

Applicant respectfully asserts that the prior art of record neither discloses nor suggests each element of independent Claim 1, and as such, the rejection is in conflict with the rule of *In re Royka*. The Examiner admitted that *Clarke* fails to teach “energy per unit length is 234 J/mm to 3360 J/mm,” but nevertheless stated that *Brenner* teaches “[a] power of 65kW meaning an energy per unit length of 2772 J/mm... It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use an energy per unit length is 234 J/mm to 3360 J/mm, since it has been

held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves routine skill in the art.” *See Office Action, page 4.*

However, the calculations made by the Examiner are incorrect as *Brenner* clearly teaches “[l]aser welding is selected as the welding method. A 5.0 kW-CO₂-laser is used for the welding; the laser welding rate is 1.7m/min... After clamping the mechanically joined parts 1 and 2, they are moved at a rotational speed of 300 rpm. The *induction generator is set to a power of 62 kW. After the end of the energy exposure period...* the *part 1 has a maximum temperature...* and the *part 2 a maximum exposure temperature... After a cooling time...* the *laser welding is begun*” (emphasis added). *See Col. 4, lines 33 – 45.* Additionally, *Brenner* clearly teaches that the “welding is performed with a laser power of 4.0 kW.” *See Col. 4, line 55.* Thus, *Brenner* teaches at most a *pre-heat cycle* using an induction generator set to 62 kW heating the two parts, *letting the two parts cool* and then welding the two parts with a 5.0 kW-CO₂-laser at a rate of 1.7m/min, which equates to 176 J/mm. This 176 J/mm is clearly not the 2772 J/mm that the Examiner has indicated as the correct amount. Applicants respectfully request that the Examiner provide additional information on how the calculation of 2772 J/mm was derived and why 65 kW was used as there is no reference in *Brenner* to 65 kW. Therefore, as *Brenner* requires welding at 176 J/mm, *Brenner* fails to make up for the admitted deficiencies of *Clarke* and as such does not teach every recitation of independent claim 2, as required by *In re Royka*. For at least this reason, claim 2 is allowable over the recited combination.

Moreover, both *Clarke* and *Brenner* specifically teach a pre-heat cycle. *See Clarke Col. 3, lines 4 – 6* and *Brenner See Col. 4, lines 33 – 45.* Thus, both *Clarke* and *Brenner* clearly *teach away* from Applicants’ independent claim 2, which positively recites “process for joining components for torque transmission in a vehicle, the components being made from hardenable steel and having a material thickness, by producing a weld seam without secondary heating.” Further, neither *Clarke* nor *Brenner* teach “melting the steel in the vicinity of the weld line over the entire material thickness, wherein the energy per unit length introduced by the welding process is in the range from 234 J/mm to 3360 J/mm, and wherein the hardenable steel has a material thickness in the range from approximately 2.0 mm to 10.0 mm,” as recited in Applicants’ independent claim 2, as amended. While the Examiner does point out that *Brenner* does teach a part thickness of 3 mm thick, (*See*

Office Action Page 5) *Brenner* does not teach a welding process of melting steel that is “approximately 2.0 mm to 10.0 mm” thick at an “energy per unit length...in the range from 234 J/mm to 3360 J/mm,” as recited in amended independent claim 2.

Therefore, *Brenner* fails to make up for the admitted deficiencies of *Clarke* and as such does not teach every recitation of amended independent claim 2, as required by *In re Royka*. For at least this reason, claim 2 is allowable over the recited combination. Furthermore, dependent claims 14 – 26, being dependent upon independent claim 2, are patentable by virtue of their dependency upon allowable independent claim 2. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

B. *Clarke* as modified by *Brenner* in further view of Kehrler (U.S. Publication No. 2004/0136776)

Claims 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Clarke* as modified by *Brenner* in further view of Kehrler (U.S. Publication No. 2004/0136776) (hereinafter, “*Kehrler*”). For at least the following reasons, Applicants respectfully traverse the rejection.

Claims 27 – 30 are dependent on claim 2. The remarks presented above with respect to the § 103 rejection are equally applicable here. Specifically, the inadequacy of *Clarke* to teach every element of independent claim 2 by not teaching any type of welding process “wherein the energy per unit length introduced... is in the range from 234 J/mm to 3360 J/mm” as claimed by Applicants’ independent claim 2, is also fatal to the Examiner’s § 103 rejection.

Nor does *Kehrler* make up for the deficiencies of *Clarke* and *Brenner*. More specifically, while *Kehrler* is directed to the welding of vehicle parts such as transmissions wherein these parts are made from hardenable steel and are joined by plasma welding, *Kehrler* does not disclose any welding process “wherein the energy per unit length introduced... is in the range from 234 J/mm to 3360 J/mm” as claimed by Applicants’ independent claim 2. Therefore, the combination of *Clarke*, *Brenner* and *Kehrler* does not teach every recitation of independent claim 2. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

In view of the above amendment and remarks, the pending application is in condition for allowance. If, however, there are any outstanding issues that can be resolved by telephone conference, the Examiner is earnestly encouraged to telephone the undersigned representative.

It is believed no fees are due with this response. However, if any fees are required in connection with the filing of this paper that are not identified in any accompanying transmittal, permission is given to charge our Deposit Account No. 18-0013, under Order No. 66969-0003 from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. §1.136 is hereby made, the fee for which should also be charged to this Deposit Account.

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Respectfully submitted,

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